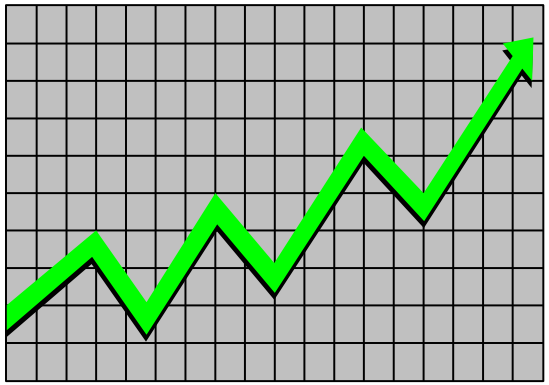
RAILER SMS

Condition Assessment

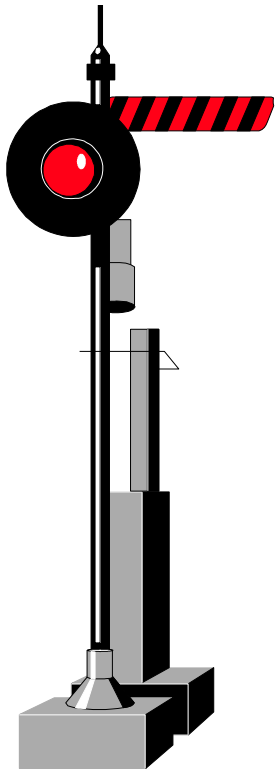
Version 6.0.0

Condition Assessment



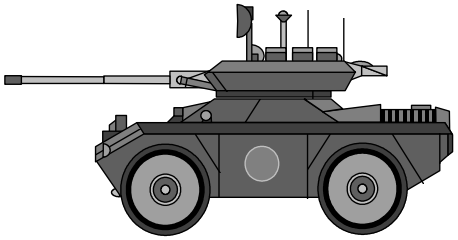
- Purposes:
- Transform inspection data into a measure of track “health” that should be objective and repeatable.
- Basis to restrict train operations.
- Communication tool.
- Form a basis for determining rates of deterioration for specific track segments.
- Form a basis for predicting condition of segments and the network.
- Compare track segments.
- Used to plan and prioritize projects, evaluate alternate M&R strategies, establish M&R trigger points, and determine budget needs.

Condition Assessment Methods in RAILER

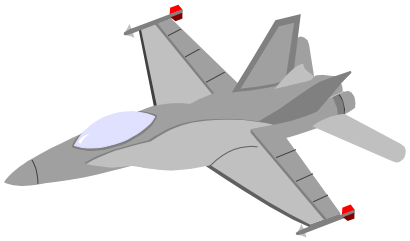


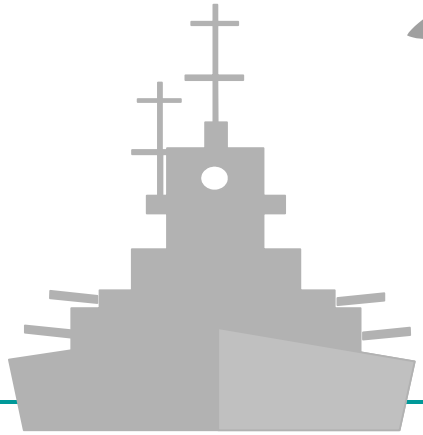
- Track Standards
- Condition Indexes
- Installation Status Report (ISR)

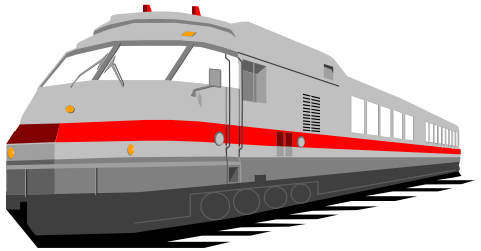
Track Standards



- UFC Tri-Service
- U.S. Army / U.S. Air Force
- U.S. Navy
- Federal Railroad Administration (FRA)





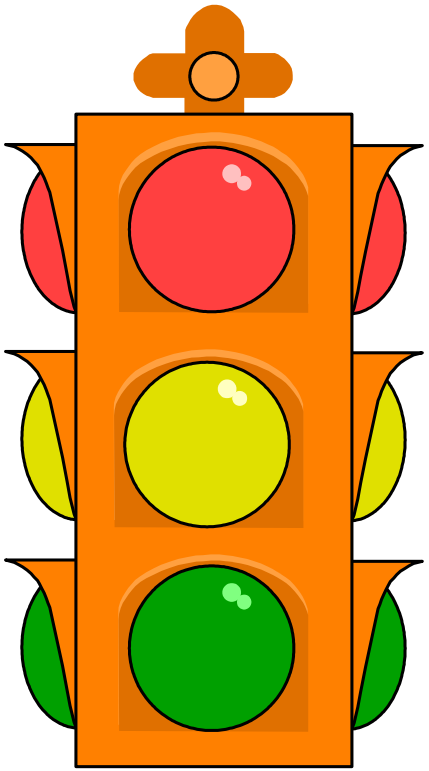


Condition Indexes (CI)

- Compute condition index for tie, rail, and ballast components for each segment.
- Compute an overall index (TSCI) for the track structure for each segment.
- Roll-up TSCI for tracks, areas and network.
- Can use to quantify deterioration rates.

Installation Status Report (ISR)

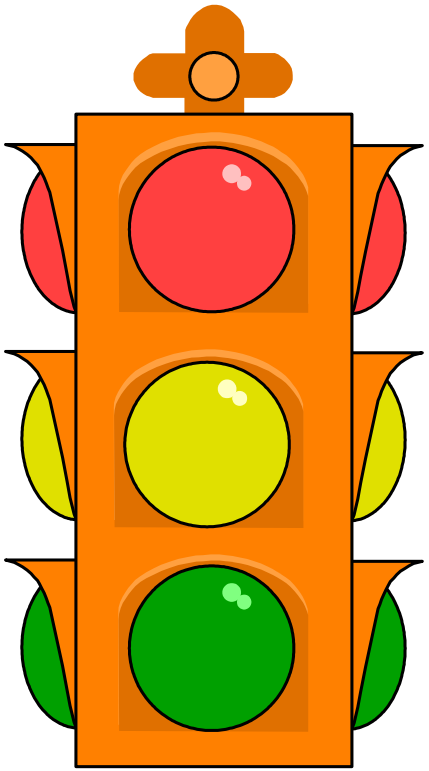
Army Requirement



- Condition levels:
  - Red
  - Amber
  - Green
- Based on TSCI.
- Compute for each track segment as well as the total network.

Installation Status Report (ISR)

Value to non-Army Users

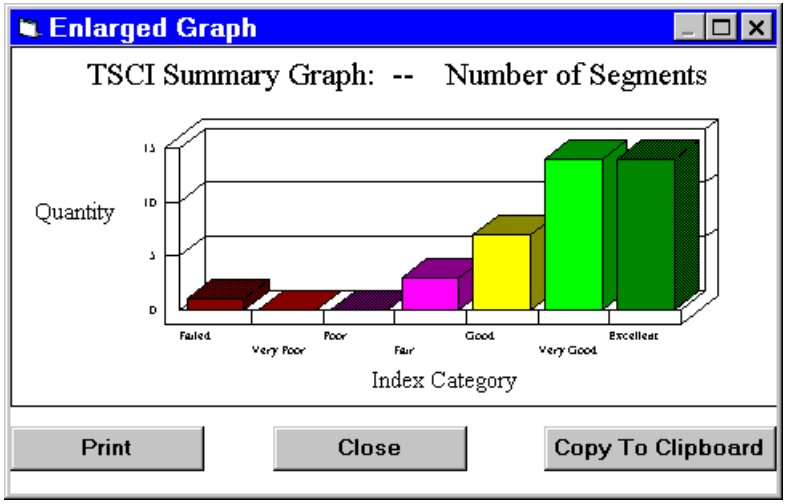


- Green: Track and/or component group is in satisfactory condition with possibly only minor M&R required.
- Amber: Track and/or component group is in adequate condition, but M&R should be accomplished.
- Red: Track and/or component group is in relatively poor condition and M&R must be accomplished.

Why Three Methods?

- Serve different, but complimentary purposes.
- No single method will adequately meet all of the condition assessment purposes.
- All derived from the same set of detailed inspection information.
- However, safety inspections only support the track standards method until a detailed inspection has been performed. After that, safety inspections adjust the condition.

Condition Report Features



- Each has a “summary” and “detail” option.
- The formats for the reports are identical.
- “Summary” offers a table and graph for the entire network.
- “Detail” offers the condition for each track segment.
- Condition index offers four views (TSCI, RJCI, TCI, and BSCI).
- Condition index “detail” offers the deterioration rates.
- CI and ISR reports can display historical summary conditions.

CI Report

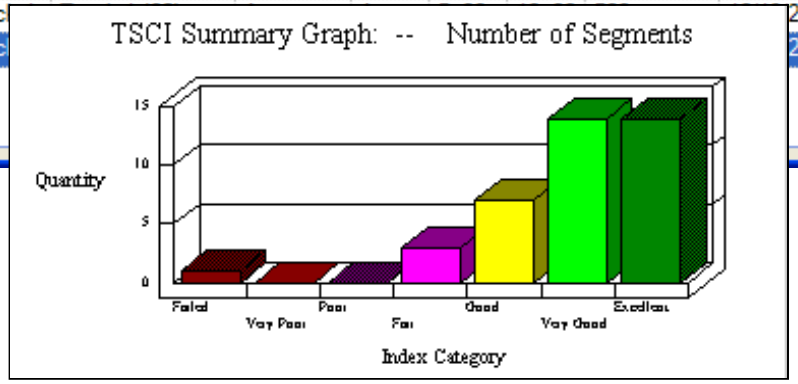
Spreadsheet Report Viewer

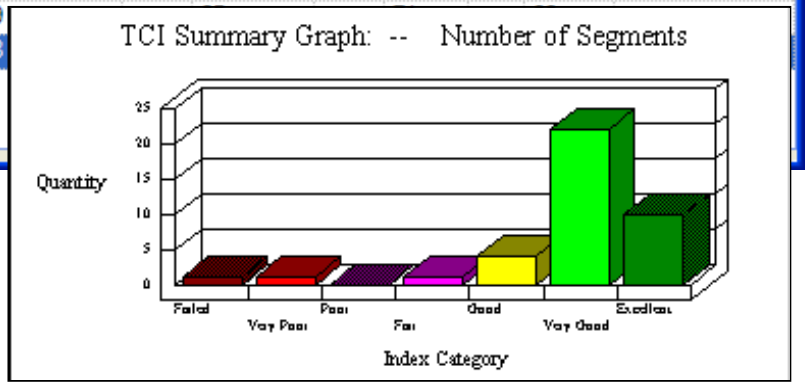
Summary | Details

Condition Index Report

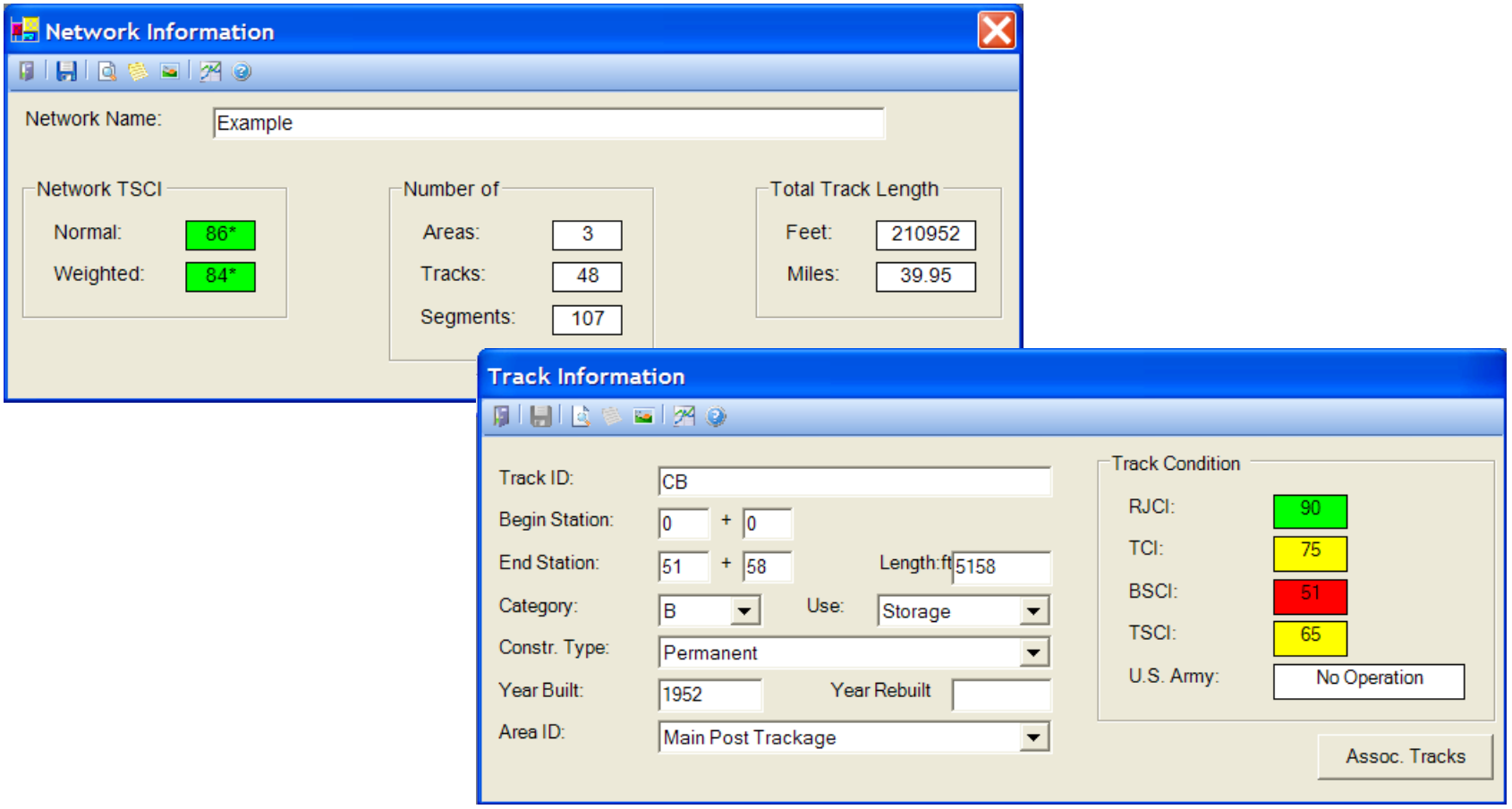
Drag a column header here to group by that column.

Track	Segment ID	Use	Cate	Begin	End	Length	Last Insp	TSCI	TS	TCI	TCI	RJC	RJ	BSC	BSCI Det Rat
Track 3	Track 3 (01)	Access	A	0+00	5+00	500	10/22/2006			99				71	
Track 3	Track 3 (02)	Access	A	5+00	10+00	500	10/20/2006			98				84	
Track 2	Track 2 (01)	Access	A	0+00	5+00	500	10/22/2006			99					
Track 2	Track 2 (02)	Access	A	5+00	10+00	500	10/22/2006			99					
Track 2	Track 2 (03)	Access	A	10+00	15+00	500	10/22/2006			99					
Track 1	Track 1 (01)	Access	A	0+00	5+00	500	10/19/2006	61		90		68		48	
Track 1	Track 1 (03)	Access	A	10+00	15+00	500	10/19/2006	67		77		88		53	
Trac							2006	79							
Trac							2006	88							





Condition “At a Glance”



Key Points to Remember

- There are several purposes to condition assessment. All are necessary for properly managing track.
- No single condition assessment method satisfies all purposes.
- RAILER uses three methods for assessing track condition.
- Although designed for Army usage, the TSCI based ISR is a useful method for other networks, as well.
- Condition values are “sprinkled” throughout RAILER and specific condition reports are available.

Questions?